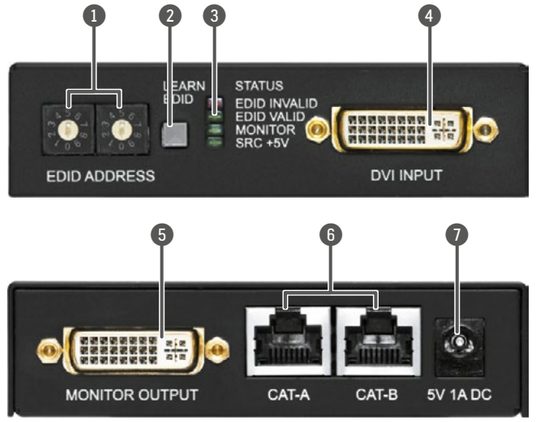
visual engineering
LIGHTWARE

Quick Start Guide

DVI-TP-RX100DL
DVI-TP-TX200DL

Front and rear views - Transmitter



⚠ The extenders do not have networking capabilities. Do not connect a Local Area Network device or a PC to the RJ45 sockets of the devices. Doing so may damage the unit!

Legend - Transmitter

1	**EDID rotary switches**	The rotary switches select one of the EDID memory addresses.
2	**Learn EDID button**	Stores the EDID of the display device attached to the output in the selected memory address.
3	**Status LEDs**	The LEDs give feedback about the state of the units and the video signal.
4	**DVI input**	Connect one dual-link DVI-D or DVI-I cable (only digital pins are connected internally) between the DVI source and the transmitter.
5	**Monitor output**	Connect one dual link DVI-D or DVI-I cable (only digital pins are connected internally) between the transmitter and the local display device. The output connector is able to supply 500 mA current on pin 14 to power fiber optical DVI extenders like DVI-OPT-TX100.
6	**CATx output(s)**	Connect two CATx cables between the transmitter and the receiver.
7	**DC 5V input**	Connect the output of the supplied 5V DC power adaptor or use Lightware's rack mountable power supply.

Status LEDs - Transmitter

EDID INVALID

- BLINKING: invalid EDID is read from the connected sink or EDID learning failed.
- ON: invalid EDID is selected by the rotary switches.

EDID VALID

- BLINKING: valid EDID is received from the connected sink or EDID learning is successful.
- ON: valid EDID is selected and emulated by the rotary switches.

MONITOR

- ON: a sink is connected to the Monitor output port and sends a valid Hot plug signal.

SRC +5V

- ON: a DVI source is connected, powered on and sends the 5V signal.

Status LEDs - Receiver

MANUAL EQ

- ON: Manual equalization mode is active.

AUTO EQ

- ON: Auto equalization mode is active.

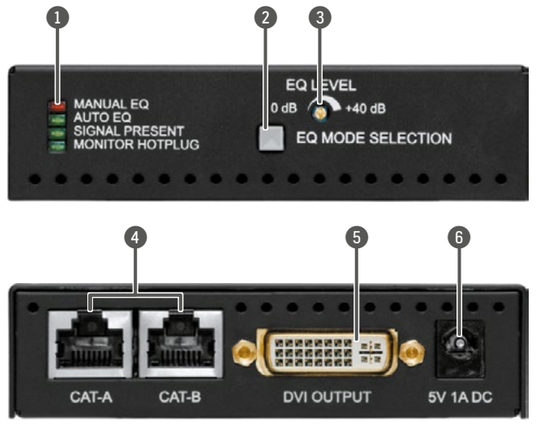
SIGNAL PRESENT

- ON: a valid DVI clock signal is present on the CATx (video) input port.

MONITOR HOTPLUG

- ON: a sink is connected to the DVI output port and sends a valid Hot plug signal.

Front and rear views - Receiver



Legend - Receiver

1	**Status LEDs**	The LEDs give feedback about the state of the units and the video signal.
2	**EQ mode selector button**	Toggles between automatic and manual EQ mode. The EQ mode status LEDs indicate which mode is currently active.
3	**EQ level adjust**	The 25-turn potentiometer can be used to precisely set the right amount of equalization in manual EQ mode. The potentiometer does not stop at the end positions, but rotates indefinitely. After reaching the end position, a clicking sound can be heard at every full turn of the knob.
4	**CATx input**	Connect one CATx cable between the receiver and the transmitter.
5	**DVI output**	Connect one dual link DVI-D or DVI-I cable (only digital pins are connected internally) between the receiver and the local display device. The output connector is able to supply 500 mA current on pin 14 to power fiber optical DVI extenders like DVI-OPT-TX100.
6	**DC 5V input**	Connect the output of the supplied 5V DC power adaptor or use Lightware's rack mountable power supply.

Maximum twisted pair distances

Resolution	Vfreq (Hz)	Pixel clk freq. (MHz)	Cat5e UTP	Cat6 UTP	Cat6 FTP	Cat7 S/FTP
640x480	60	25.2	60 m	65 m	70 m	80 m
800x600	60	40.0	60 m	65 m	65 m	75 m
1024x768	60	65.0	55 m	60 m	60 m	75 m
1280x720p	60	74.2	55 m	60 m	60 m	70 m
1280x1024	60	108.0	50 m	55 m	60 m	65 m
1400x1050	60	121.8	45 m	45 m	55 m	60 m
1600x1200	60	162.0	30 m	35 m	45 m	50 m
1920x1080p	60	148.5	30 m	35 m	45 m	50 m
1920x1200p	60	153.0	30 m	35 m	45 m	50 m
2048x1536p	60	208.0	50 m	55 m	60 m	65 m
2560x1600p	60	268.0	30 m	35 m	45 m	50 m
3840x2400p	30	304.0	30 m	35 m	45 m	50 m

ℹ Category 7 cable is always recommended since they are screened and foiled by standard.

Important safety instructions

Please read and keep the information in the attached safety instructions supplied with the product before start using the device.

Introduction

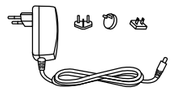
Lightware TP-DL series transceivers are Dual-Link DVI over Twisted pair extenders which transmit Dual-Link DVI-D signals over two CATx cables. Accessible distances depend on the used cable quality and signal resolution. The DVI-TP-TX200DL transmitter includes an EDID Manager and built-in DVI distribution amplifier for local monitor Output.

Only two CAT cables are needed for Dual-Link DVI signal transmission, there is no need for third CAT cable to transmit EDID. If a lower resolution Single-Link signal is transmitted, only one CAT cable is needed between the transmitter and the receiver.

TP-DL series transceivers support the highest resolutions up to 3840 x 2400 including all HDTV resolutions: 720p, 1080p, 2K. DVI-TP-TX200DL stores and emulates 100 EDID, 50 of which are factory preset and 50 are user programmable.

Box contents

Extender unit



5V DC power adaptor with interchangeable plugs

Safety and warranty info, Quick Start Guide

Powering on

1. After the system is complete, firstly connect the output of the Power Adaptor to the extenders then connect the adaptor to the socket.
2. At first the extenders display the firmware version using the the upper two LEDs. The following example shows this process for a firmware version of 1.3.1:
   - RED blinks once, short pause.
   - GREEN blinks three times, short pause.
   - GREEN blinks once.
3. The EDID INVALID LED on the transmitter lights up for 2-3 seconds, then the upper two LEDs display the EDID status (if the selected EDID is valid or invalid).
4. The attached DVI source and monitor(s) can be powered on.

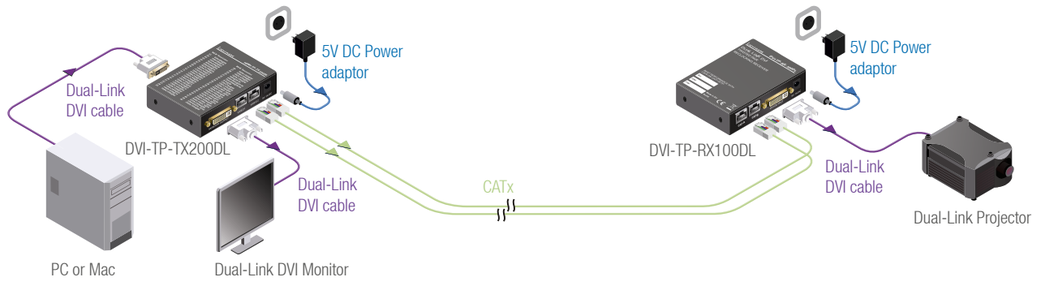
ℹ If none of the LEDs light up upon power-up, the unit is most likely damaged and further use is not advised. Please contact support@lightware.eu.

Adjusting the input equalization

The amplitude of high frequency signals decreases after they pass through long distances in copper cables. To counter-act this phenomenon, the receiver amplifies the signal while maximizing the amplitude at a certain level. The receiver offers two equalization modes: automatic and manual. The mode can be toggled by pressing the EQ MODE SELECTION button.

⚠ It is always advised to use the automatic mode and only adjust the equalization manually if the auto mode does not give a good result.

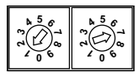
Typical application



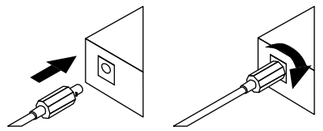
EDID selection

Use a flat head screwdriver to change the address. The left switch sets the tens value, the right switch gives the ones value of the EDID.

ℹ Avoid the use of keys, coins, knives and other sharp objects.



Locking DC plug



Twist 90°clockwise to lock.

Further information

The document is valid with the following firmware version: 1.1.5 for RX and 1.3.1 for TX.
The User's manual of this appliance is available at www.lightware.eu.
See the Downloads section on the website of the product.

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